

APPENDIX A
NPDES CSO PERMIT No. MA0101974

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act, as amended, 33 U.S.C. §§1251 et seq., and the Massachusetts Clean Waters Act, as amended, Massachusetts General Laws Chapter 21, §§26-53, the

**City of Cambridge
Department of Public Works
147 Hampshire Street
Cambridge, MA 02139**

is authorized to discharge from:

12 Combined Sewer Overflows (CSOs) listed in Attachments A and B

to the receiving waters named **Alewife Brook and Charles River**, both Class B waters with CSO variances, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

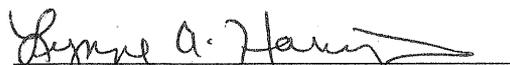
This permit shall become effective on the first day of the calendar month following sixty (60) days after the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on March 26, 1993.

This permit consists of **8** pages, **Attachments A through E** in Part I, and 25 pages in Part II, Standard Conditions.

Signed this 30th day of September, 2009


Lynne Hamjian, Acting Director
Office of Ecosystem Protection
Environmental Protection Agency
Region I
Boston, MA


Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

Part I. EFFLUENT LIMITATIONS AND OTHER PERMIT CONDITIONS**A. Effluent Limitations**

1. During wet weather, the permittee is authorized to discharge combined storm water and sanitary wastewater from combined sewer outfalls listed in **Attachments A and B**, subject to the following effluent limitations and requirements:
 - a. The permittee must implement the Nine Minimum Controls (NMC) specified below and detailed further in Parts I.B. and I.C. of this permit by the effective date of the permit.
 - (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows.
 - (2) Maximum use of the collection system for storage.
 - (3) Review and modification of the pretreatment program to assure CSO impacts are minimized.
 - (4) Maximization of flow to the POTW for treatment.
 - (5) Prohibition of dry weather overflows from CSOs.
 - (6) Control of solid and floatable materials in CSOs.
 - (7) Pollution prevention programs that focus on contaminant reduction activities.
 - (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts.
 - (9) Monitoring to effectively characterize CSO and the efficacy of CSO controls.
 - b. The authorized typical year discharge (activation) frequencies and volumes for the **Charles River** CSO discharges are limited as shown in **Attachment A**. Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall. CSOs discharging to the Lower Charles River have been granted a variance under the Massachusetts water quality standards (WQS) through October 1, 2010. A copy of this determination letter for the variance extension is included as **Attachment C**. The conditions of this variance are incorporated into and are enforceable elements of this permit.
 - c. The authorized typical year discharge (activation) frequencies and volumes for **Alewife Brook** CSO discharges are limited as shown in **Attachment B**. Discharge frequencies and volumes are expected to vary from year to year as a function of rainfall. CSOs discharging to Alewife Brook have been granted a

variance under the Massachusetts WQS through September 1, 2010. A copy of this determination letter for this variance extension is included as **Attachment D** and the fact sheet accompanying this variance extension is included in the fact sheet as **Attachment B**. The conditions of this variance extension are incorporated into and are enforceable elements of this permit.

- d. The permit's discharges must meet Federal and State WQS subject to and consistent with any water quality standards variances or variance extensions issued by the MassDEP and approved by the EPA.

B. Nine Minimum Controls Implementation

Until the review and update described below is completed, the permittee shall implement the nine minimum controls in accordance with the documentation submitted by the City on December 31, 1996 and its response to EPA comments dated May 1, 1997, except where the minimum implementation levels described in Part I.C are more stringent.

Pursuant to the requirements of Part I.D.5., the permittee must review and update its nine minimum control program no later than April 30th of the first year of the permit. The nine minimum controls shall then be implemented in accordance with this documentation, except as updated pursuant to the annual reporting requirements in Part I.D.5.

C. Minimum Implementation Levels

1. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that it is in good working condition and adjusted to minimize combined sewer discharges and tidal surcharging. (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of the inspection, the general condition of the CSO structure, and whether the structure is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall forward to the Massachusetts Department of Conservation and Recreation ("DCR") its description of any conditions within DCR's control that impair the operation of any CSO structure. The permittee shall maintain all records of inspections for at least eight (8) years.
2. Discharges to the combined system of septage, holding tank wastes or other material which may cause a visible oil sheen or containing floatable materials are prohibited during wet weather when CSO discharges may be active. (NMC# 3, 6, and 7).
3. Dry weather overflows (DWOs) are prohibited (NMC# 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP within 24 hours in accordance with the reporting requirements for plant bypass (See Part 1.E. Unauthorized Discharges and Part II.D.1.e. of this permit).

4. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC# 9). Quantification may be through direct measurement or estimation. When estimating, the permittee shall make reasonable efforts (i.e. gaging, measurements) to verify the validity of the estimation technique. The following information must be recorded for each combined sewer outfall for each discharge event:
 - Estimated duration (hours) of discharge;
 - Estimated volume (gallons) of discharge; and
 - National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation data at minimum of one-hour intervals is available to the permittee. Cumulative precipitation per discharge event shall be provided;

The permittee shall maintain all records of discharges for at least eight (8) years after the expiration date of this permit.

5. The permittee shall maintain identification signs for all combined sewer outfall structures (NMC# 8). The signs shall be located at or near the combined sewer outfall structures and be readable by the public both from the shore and from instream locations. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following language, at a minimum:

WARNING:*
CITY OF CAMBRIDGE
DEPARTMENT OF PUBLIC WORKS
WET WEATHER SEWAGE DISCHARGE OUTFALL (discharge serial number)

* For existing signs which otherwise meet all of the requirements of this section, the word "Warning" need not be added.

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent practicable, shall add a universal symbol to their warning signs reflecting a CSO discharge, or place additional signs in languages other than English based on notification from the EPA and the MassDEP or on the permittee's own determination that the primary language of a substantial percentage of the residents in the vicinity of a given outfall structure is not English.

6. The permittee, with the collaboration of the MWRA and the City of Somerville, shall maintain informational signs at John Wald Park and other public access locations identified by the MassDEP, including the Community Sailing Program and local boathouses, to advise the public of CSO discharges and potential public health impacts

and to provide contact information and website links. The text of the notice shall be subject to prior approval by the MassDEP. (NMC# 8)

7. The permittee, with the collaboration of the MWRA and the City of Somerville, shall issue a joint press release by April 15 of each year, which shall include (a) general information on CSOs, (b) their locations in the Alewife Brook/Upper Mystic River watershed, and (c) potential health risks posed by exposure to CSO discharges. This press release shall be distributed to the following, at a minimum: (NMC# 8)
 - watershed advocacy groups
 - local health agents
 - property owners subject to flooding in the Alewife Brook watershed {as defined by the MassDEP in consultation with the U. S. Federal Emergency Management Agency (FEMA) and the DCR}}
 - newspapers of local circulation in the Alewife Brook/Upper Mystic River watershed
8. The permittee, in collaboration with MWRA and the City of Somerville, shall provide email notice to EPA, MassDEP, local health agents, and the Mystic River Watershed Association of CSO discharge events in the Alewife Brook watershed within 24 hours of the onset of such discharges. The permittee may use the activation of outfall CAM401B as a general indicator of the onset of CSO discharge which would trigger the 24 hour notice, unless there is evidence that a different CSO activated before CAM401B. (NMC# 8)
9. The permittee shall update its website to include general information regarding CSOs, including their potential health impacts, locations of CSO discharges in the Charles River and Alewife Brook watersheds, the overall status of all CSO abatement programs, web links to CSO communities and watershed advocacy groups, and the most recent information on all CSO activations and volumes in both watersheds. (NMC# 8)

D. Annual Report

By April 30th of each year the permittee shall submit a report which includes the following information;

1. Activation frequencies and discharge volumes for each CSO listed on **Attachments A and B** during the previous calendar year. In the first annual report submitted in accordance with this permit, the permittee will include a CSO monitoring plan that describes the methods it will use to quantify CSO activations and volumes. Activation frequencies and discharge volumes shall thereafter be reported in accordance with the methods identified in the CSO monitoring plan.
2. Precipitation during the previous year for each day, including total rainfall, peak intensity, and average intensity.

3. Status of the implementation of CSO abatement work for which the permittee is directly responsible in accordance with the MWRA Final CSO Facilities Plan, the Federal Court Order (US v. MDC., et al., No. 85-0489 (D. Mass.)), as amended by the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control (as incorporated into the Federal Court Order on April 27, 2006), and any related, subsequent documents. The “Second Stipulation” document is included as **Attachment E**.
4. For outfalls listed in **Attachments A and B**, provide the following information in the Annual Report for year 3 and every two years thereafter using the updated MWRA model (or equivalent) for comparison:
 - a. A comparison between the precipitation for the previous year and the precipitation in the typical year under future planned conditions used in the MWRA Final CSO Facilities Plan or “Notice of Project Change” document, or subsequent document, whichever is appropriate. This comparison shall include the number of events and size of events (including recurrence interval).
 - b. For each CSO, a comparison between the activation volume and frequency for the previous year and the volume and frequency expected during a typical year under future planned conditions.
 - c. An evaluation of whether the CSO activation volumes and frequencies for the previous year are in accordance with the estimates in the MWRA Final CSO Facilities Plan or the report entitled “Notice of Project Change for the Long Term CSO Control Plan for Alewife Brook” (April 30, 2001, MWRA), given the precipitation which occurred during the year, and the CSO abatement activities which have been implemented. Where CSO discharges are determined to be greater than the activation frequency or volume in either document above, the permittee shall include their assessment of such result, a discussion of remaining CSO abatement activities and an assessment of the impact of those projects on attaining the level of CSO control identified in the relevant document, or any amendments thereto.
5. A summary of modifications to the approved NMC program which have been evaluated and a description of those which will be implemented during the upcoming year. In the first annual report submitted in accordance with this permit (April 30, 2010), the permittee shall submit an updated nine minimum control plan that reviews the current controls and updates them to enhance their effectiveness. The updated NMC plan shall include or exceed all of the minimum implementation levels described in Part I.C. The second Annual NMC Report (due April 30, 2011) shall include 1) an assessment of the potential for inflow from Alewife Brook to the enter the combined sewer system through the existing regulator structures over a range of flood conditions and corresponding Brook levels, and 2) an assessment of the cost, feasibility, and effectiveness of installing inflow controls on the remaining CSO outfalls if flow does enter the combined sewer system more frequently than the 100 year storm.

6. A certification that states that the previous calendar year's monthly inspections were conducted, their results recorded, and records maintained.

E. Unauthorized Discharges

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit from those outfalls listed in **Attachments A and B** of this permit. Discharges of wastewater from CSOs during dry weather or from any other point sources, including sanitary sewer overflows (SSOs) are not authorized by this permit and shall be reported to EPA and MassDEP in accordance with Section D.1.e.(1) of the General Requirements of this permit (Twenty-four hour reporting). [Note: SSO Reporting Form (which includes MassDEP Regional Office telephone numbers) for submittal of written report to MassDEP is available on-line at: <http://www.mass.gov/dep/water/approvals/surffms.htm#sso>.]

F. Notice of Elimination

The permittee shall give notice of elimination or change in status of any outfall listed in **Attachments A and B** as soon as possible and in writing to the Director of the Office of Ecosystem Protection at EPA and to the Director of the Division of Watershed Management at MassDEP.

G. Certification and Signature of Reports

All reports required by the permit and other information requested by the Director shall be signed and certified in accordance with section D.2. of Part II of this permit.

H. Report Submission

1. Signed and dated originals of all notifications and reports required herein, shall be submitted to the Director at the following address:

U.S. Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, MA 02114

2. Signed copies of all notifications and reports shall be submitted to the State at:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
205B Lowell Street
Wilmington, MA 01887

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
1 Winter Street
Boston, MA 02108
Attention: Mark Casella

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

I. Retention of Records

The permittee shall retain all records of all monitoring information, copies of all reports required by this permit and records of all other data required by or used to demonstrate compliance with this permit, for at least eight years. This period may be modified by alternative provisions of this permit or extended by request of the Director at any time.

J. State Permit Conditions

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chapter 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

ATTACHMENT A

CSO OUTFALLS AND EFFLUENT LIMITS – CHARLES RIVER

Receiving Water	Outfall Number	Discharge Location	Effluent Limitations	
			Annual Activation Frequency	Annual Volume (million gallons)
Charles River ¹	CAM-005	Lowell Street at Mount Auburn	3	0.84
	CAM-007	Memorial Drive at Hawthorne Street	1	0.03
	CAM-009	Memorial Drive at Old Murray Road	2 ²	0.01
	CAM-011	Plympton Street	0 ²	0
	CAM-017	Binney Street at Edwin Land Boulevard	1	0.45

1. These discharges shall be consistent with the performance of the Long Term Control Plan (LTCP), as defined in Exhibit B of the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control as incorporated into the Federal Court Order on April 27, 2006.
2. Outfalls CAM009 and CAM011 have been temporarily sealed. They may be reopened during the permit term depending upon the results of the monitoring of hydraulic effects which are experienced upstream.

ATTACHMENT B

CSO OUTFALLS AND EFFLUENT LIMITS – ALEWIFE BROOK

Receiving Water	Outfall Number	Discharge Location	Effluent Limitations	
			Annual Activation Frequency	Annual Volume (million gallons)
Alewife Brook ¹	CAM-001	Foch Street at Alewife Brook Parkway	5	0.19
	CAM-002A ² CAM002B ²	Alewife Brook Parkway at Massachusetts Avenue	4	0.69
	CAM-004	Concord Avenue Rotary	0 ³	0
	CAM-400	Alewife Brook at Harrison Avenue Extension	0 ³	0
	CAM-401A	Sherman Street and Alewife Brook at B&M Railroad	5	1.61
	CAM-401B	Alewife Brook Parkway at Massachusetts Avenue	7	2.15

1. These discharges shall be limited in accordance with the performance of the Revised Recommended Plan, as characterized in the “Final Variance Report for Alewife Brook and the Upper Mystic River”, July, 2003, MWRA and supplemental letter report (Metcalf & Eddy, Inc.), July 8, 2003.
2. These two CSOs are at the same location and are associated with a single CSO regulator.
3. These CSO are scheduled to be closed.

Note : CSO outfalls MWR003 and SOM001A, both located in Cambridge, are maintained by the MWRA and the City of Somerville respectively and are authorized by NPDES permits MA0103284 and MA0101982. Two CSO treatment facilities, at Cottage Farm and Prison Point, also located in Cambridge, are operated by the MWRA and authorized by permit #MA0103284.

ATTACHMENT C



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

ARLEEN O'DONNELL
Commissioner

FINAL DETERMINATION TO EXTEND VARIANCE FOR COMBINED SEWER OVERFLOW DISCHARGES TO ALEWIFE BROOK/UPPER MYSTIC RIVER

The Department of Environmental Protection (the "Department") hereby extends the Variance for CSO Discharges to the Alewife Brook/Upper Mystic River from September 1, 2007 for a period of three years (to September 1, 2010). This action, which authorizes limited CSO discharges, is taken in connection with NPDES permit Nos. MA0103284, MA0101974, and MA0101982, issued to the Massachusetts Water Resources Authority (MWRA), the City of Somerville, and the City of Cambridge, respectively. The Variance extension is issued pursuant to the Massachusetts Surface Water Quality Standards at 314 CMR 4.00, and subject to the specific conditions which follow. The Variance is intended to provide a timeframe to implement the revised recommended CSO control plan for the Alewife Brook/Upper Mystic River watersheds.

The Department grants this Variance based on the technical and cost information in the 1997 MWRA CSO Facilities Plan, the July 1, 2003 MWRA Final Variance Report, and affordability analyses demonstrating that implementation of more stringent CSO controls at this time would result in substantial and widespread social and economic impact as specified in 314 CMR 4.03(4). Issuance of this Variance for CSO discharges to the Alewife Brook/Upper Mystic River is consistent with EPA Guidance: *Coordinating CSO Long-Term Planning with Water Quality Standard Reviews (July 31, 2001)*, which states that longer term variances and renewal of variances are warranted given the extended duration necessary for implementation of Long-Term Control Plan(s).

MWRA and the Cities of Cambridge and Somerville shall implement the revised recommended plan included in the July 1, 2003 MWRA Final Variance Report for the Alewife Brook/Upper Mystic River. The implementation schedule will be as set forth in modifications to the Federal Court Order.

It is anticipated that this Variance will be incorporated into NPDES permits for the MWRA and the Cities of Cambridge and Somerville. Failure by the MWRA and/or the Cities of Cambridge or Somerville to comply with the conditions of this Variance following its effective date and prior to and following permit modification or reissuance will constitute a violation of

the permit as in effect on the date of such violation, as well as the Massachusetts Surface Water Quality Standards and Permit Regulations, 314 CMR 3.00.

VARIANCE CONDITIONS

The CSO Variance is conditioned upon MWRA and the Cities of Cambridge and Somerville complying with the following requirements:

A. Implementation of the Revised Recommended Plan

MWRA and the Cities of Cambridge and Somerville shall implement the \$100 million Revised Recommended Plan in the Alewife Brook/Upper Mystic River watershed to abate CSO discharges. The implementation schedule shall conform to the requirements of the federal court order, as modified. CSO discharges shall be limited in accordance with the performance of the Revised Recommended Plan, as characterized in the July 1, 2003 MWRA Final Variance Report after implementation of the Revised Recommended Plan and upon completion of subsequent monitoring to verify that the Long-Term CSO control goals are achieved.

B. Other Actions to Minimize CSO/Sanitary Discharges

- i. MWRA and the Cities of Cambridge and Somerville shall continue to implement the Nine Minimum Controls (NMC), and monitor CSO activations and volumes. Cambridge and Somerville each shall submit a report to the Department on an annual basis that contains estimates of CSO activations and volumes in the Alewife Brook/Upper Mystic River. The first report shall be submitted by April 30, 2008 for the preceding calendar year. On or before April 30 of each year, MWRA shall submit to the Department the estimated CSO activations and volumes for all CSO outfalls for the previous calendar year in the Alewife Brook/Upper Mystic River using the MWRA sewer system model.
- ii. MWRA shall continue to provide technical assistance related to the identification and removal of I/I to member communities.
- iii. The Cities of Cambridge and Somerville shall respond to any DEP comments on the Infrastructure Studies submitted pursuant to the 2004 Variance Extension, or any other DEP information requests to clarify the conditions of the combined sewer system, including the frequency and volume of CSO discharges, within 90 days of receiving such comments.

C. Notification to the Public of CSO Discharges and Impacts:

- i. MWRA and the cities of Cambridge and Somerville shall maintain outfall signs which are visible both from the shore and from in stream locations for their permitted

CSO discharges. Pursuant to the NPDES permit, the following language, at a minimum, shall be included:

WARNING:
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

- ii. MWRA and the Cities of Cambridge and Somerville shall maintain informational signs at John Wald Park and other public access locations identified by the Department to advise the public of CSO discharges and potential public health impacts and to provide contact information and website links. The text of the notice shall be subject to prior approval by the Department.
- iii. MWRA and the Cities of Cambridge and Somerville shall issue a joint press release by April 15 of each year to watershed advocacy groups, local health agents, property owners subject to flooding in the Alewife Brook watershed (as defined by the Department in consultation with FEMA and DCR), and newspapers of local circulation in the Alewife Brook/Upper Mystic River watershed, which shall include general information on CSOs, their locations in the Alewife Brook/Upper Mystic River watershed, and potential health risks posed by exposure to CSO events.
- iv. The City of Cambridge, in collaboration with MWRA and Somerville, shall provide email notice to EPA, the Department, local health agents, and the Mystic River Watershed Association of CSO discharge events in the Alewife Brook watershed within 24 hours of the onset of the discharge.
- v. MWRA and Cities of Cambridge and Somerville shall update and maintain their respective websites to include general information regarding CSOs, potential health impacts, locations of CSO discharges, the status of the CSO abatement program, web links to CSO communities and watershed advocacy groups, and information from the most recent information on CSO activations and volumes in the Alewife Brook/Upper Mystic River watershed.

D. Receiving Water Monitoring

The MWRA shall continue to perform water quality monitoring in the Alewife Brook/Upper Mystic River to assess the impacts of CSO discharges.

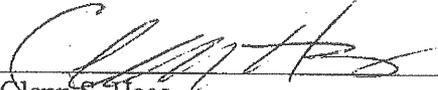
Each year, on or before July 15 for the duration of this Variance, MWRA shall submit to the Department and EPA a report on the previous year's sampling program. The report shall include:

- i. A summary of the receiving water sampling data collected over the past calendar year, including sampling locations and parameters, and comparisons between results during wet and dry weather.

- ii. MWRA has a sampling plan for the Alewife Brook/Upper Mystic River on its website at <http://www.mwra.state.ma.us/harbor/enquad/pdf/2005-12.pdf>. Changes in schedule, sampling sites, and/or parameters will be provided to the Department for review and approval in advance of implementation of the sampling plan, for each year of this variance.

Subject to the conditions included in this Variance, MWRA, and the Cities of Cambridge and Somerville shall be authorized to have CSO discharges during wet weather events to the Alewife Brook/Upper Mystic River, CSO discharges shall be consistent with the performance of the Revised Recommended Plan, as characterized in the July 1, 2003 MWRA Final Variance Report, upon implementation of the Revised Recommended Plan and after completion of subsequent monitoring to verify that the Long-Term CSO control goals are achieved.

8/30/07
Date Issued


Glenn S. Haas

Acting Assistant Commissioner
Bureau of Resource Protection

9/1/07
Effective Date

ATTACHMENT D



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

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Secretary

ARLEEN O'DONNELL
Commissioner

FINAL DETERMINATION TO EXTEND VARIANCE FOR COMBINED SEWER OVERFLOW DISCHARGES TO LOWER CHARLES RIVER/CHARLES BASIN

The Department of Environmental Protection (the "Department") hereby extends the Variance for CSO Discharges to the Lower Charles River/Charles Basin from October 1, 2007 for a period not to exceed three years (to October 1, 2010). This action, which authorizes limited CSO discharges, is taken in connection with NPDES permit Nos. MA0103284, MA0101982, and MA 0101192 issued to the Massachusetts Water Resources Authority ("MWRA"), the City of Cambridge, and the Boston Water & Sewer Commission, respectively. This Variance extension is issued pursuant to the Massachusetts Surface Water Quality Standards at 314 CMR 4.00, and subject to the specific conditions, which follow. This Variance is intended to provide for the completion of design, construction, and subsequent monitoring of CSO controls proposed in the revised Long-Term Control Plan (the "LTCP") mandated in the relevant orders of the United States District Court for the District of Massachusetts, Civil Action Nos. 85-0489-MA and 83-1614-MA, including amended Schedule Six, dated April 27, 2006 (the "Federal Court Order").¹

Based on a review of the extensive planning documents and reports conducted by the MWRA, the City of Cambridge, and the Boston Water and Sewer Commission and moreover based upon the status of the implementation of the LTCP, the Department has determined that it is not feasible at this time for the MWRA, the City of Cambridge, and the Boston Water & Sewer Commission to fully attain the Class B uses and associated water quality criteria for bacteria for the Lower Charles River/Charles Basin as implementation of more stringent controls at this time beyond those included in the LTCP would result in substantial and widespread economic and social impact.

Issuance of this Variance for CSO discharges to the Lower Charles River/Charles Basin is consistent with EPA Guidance: *Coordinating CSO Long-Term Planning with Water Quality Standard Reviews (July 31, 2001)*, which states that longer term variances and renewal of

¹ The documents that comprise MWRA's LTCP are identified in the Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control dated March 15, 2006.

variances are warranted given the extended duration necessary for implementation of the Long Term CSO Control Plan.

The components of the LTCP for the Lower Charles River/Charles Basin include the recommendations of the *January 2004, Cottage Farm CSO Facility Assessment Report*, with additional wastewater improvements which will further reduce CSO activations and volume at the Cottage Farm facility. Additionally, an abandoned 54-inch sewer crossing beneath the Charles River will be activated in order to convey flow to the Ward Street Headworks and the Deer Island Wastewater Treatment Plant. System optimization, outfall closures, and separation in Brookline and the Bulfinch Triangle area of Boston are also elements of the LTCP's proposed improvements for the Lower Charles River/Charles Basin.

MWRA, in cooperation with the City of Cambridge, and the Boston Water & Sewer Commission, shall implement the LTCP. The Department notes that portions of the work included in the LTCP, specifically the sewer separation work in Boston, Cambridge and Brookline are critical to achieving a high level of CSO control in the Charles River watershed, and at the same time addressing public health risks associated with sewer backups and flooding.

It is anticipated that this Variance will be incorporated into the NPDES permits for the MWRA, the City of Cambridge, and the Boston Water & Sewer Commission. Failure by the MWRA, the City of Cambridge, or the Boston Water & Sewer Commission to comply with the conditions of this Variance following its effective date and prior to or following permit modification or re-issuance will constitute a violation of the permit as in effect on the date of such violation, as well as the Massachusetts Surface Water Quality Standards and Permit Regulations, 314 CMR 3.00.

In consideration of the following conditions, the Department has determined that the extension of the Variance to the Massachusetts Water Resources Authority ("MWRA"), the City of Cambridge, and the Boston Water & Sewer Commission for their CSO discharges to the Lower Charles River/Charles Basin are warranted so that based on information collected and analyses performed in conjunction with the implementation of the LTCP, it ultimately can be determined whether the Class B uses for the Lower Charles River/Charles Basin can be attained.

VARIANCE CONDITIONS

The CSO Variance is conditioned upon MWRA, the City of Cambridge, and the Boston Water & Sewer Commission complying with the following requirements:

A. Implementation of the LTCP

MWRA, the City of Cambridge, and the Boston Water & Sewer Commission shall implement the LTCP for the Lower Charles River/Charles Basin, specified in the 1997 MWRA Final Environmental Impact Report and CSO Facilities Plan and modified by the recommendations for additional work included in the January, 2004 Cottage Farm CSO Facility Assessment Report; the August 2, 2005 Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook, and East Boston; and other planning documents specified in the Federal Court Order. The implementation

schedule for the proposed work shall conform to the requirements of the Federal Court Order, as modified. CSO discharges shall be consistent with the performance of the LTCP, as defined in Exhibit B of the Second CSO Stipulation incorporated into the Federal Court Order on April 27, 2006.

B. Other Actions to Minimize CSO/Sanitary Discharges

- i. MWRA, the City of Cambridge, and the Boston Water & Sewer Commission shall continue to implement the Nine Minimum Controls ("NMC"), and monitor CSO activations and volumes. The City of Cambridge and the Boston Water & Sewer Commission each shall submit a report to the Department on an annual basis, beginning on April 30, 2008, presenting estimated CSO activations and volumes in the Lower Charles River/Charles Basin for the previous calendar year. On or before April 30 of each year, MWRA shall submit to the Department estimated CSO activations and volumes for all CSO outfalls for the previous calendar year in the Lower Charles River/Charles Basin, using the MWRA sewer system model.
- ii. MWRA shall continue to provide technical assistance related to the identification and removal of I/I to member communities.
- iii. The City of Cambridge and the Boston Water & Sewer Commission shall respond to any DEP comments on the Infrastructure Studies submitted pursuant to the 2004 Variance Extension, or any other DEP information requests to clarify the conditions of the combined sewer system, including the frequency and volume of CSO discharges, within 90 days of receiving such comments.

C. Notification to the Public of CSO Discharges and Impacts:

- i. MWRA, the City of Cambridge, and the Boston Water & Sewer Commission shall maintain outfall signs for each permitted CSO outfall which are visible both from the shore and from instream locations for their permitted CSO discharges. Pursuant to the NPDES permits, the following language, at a minimum, shall be included:

WARNING:
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

- ii. MWRA, the City of Cambridge, and the Boston Water & Sewer Commission shall collaborate to provide informational notices to boathouses in the areas affected by the CSO discharges and the Community Sailing program to advise the public of CSO discharges and potential public health impacts and to provide contact information and website links. The text of the notice shall be subject to prior approval by the Department.
- iii. Between March 1 and December 1 of each year, the MWRA shall provide email notice to EPA, the Department, local health agents in the communities affected by the

CSO discharges, and the Charles River Watershed Association of CSO discharge events at Cottage Farm within 24 hours of the discharge.

- iv. MWRA, the City of Cambridge, and the Boston Water & Sewer Commission shall maintain their respective websites to include general information regarding CSOs, including potential public health impacts, locations of CSO discharges in the Charles River watershed, tables listing CSO activations and volumes identified pursuant to the reporting requirements included in Section B(i), and the overall status of the CSO abatement program.

D. Receiving Water Monitoring

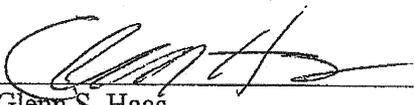
The MWRA shall continue to perform water quality monitoring in the Lower Charles River/Charles Basin to assess the impacts of CSO discharges.

Each year, on or before July 15 for the duration of this Variance, MWRA shall submit to the Department and EPA a report on the previous year's sampling program. The report shall include:

- i. A summary of the receiving water sampling data collected over the past calendar year, including sampling locations and parameters and comparisons between results in wet and dry weather.
- ii. MWRA has a sampling plan for the Charles River on its website at <http://www.mwra.state.ma.us/harbor/enquad/pdf/2005-13.pdf>. Changes in schedule, sampling sites, parameters will be provided to the Department for review and approval in advance of the implementation of the sampling plan for each year of the variance.

Subject to the conditions included in this Variance, MWRA, and the City of Cambridge and Boston Water and Sewer, shall be authorized to have CSO discharges during wet weather events to the Charles River. CSO discharges shall be consistent with the performance of the Revised Recommended LTCP after implementation of the Revised Recommended Plan and upon completion of subsequent monitoring to verify that the Long-Term CSO control goals are achieved.

8/30/07
Date Issued


Glenn S. Haas
Acting Assistant Commissioner
Bureau of Resource Protection

10/1/07
Effective Date

ATTACHMENT E

UNITED STATES DISTRICT COURT
for the
DISTRICT OF MASSACHUSETTS

.....
UNITED STATES OF AMERICA,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,
et al.,

Defendants.

CIVIL ACTION
No. 85-0489-RGS

.....
CONSERVATION LAW FOUNDATION OF
NEW ENGLAND, INC.,

Plaintiff,

v.

METROPOLITAN DISTRICT COMMISSION,

Defendants.

CIVIL ACTION
No. 83-1614-RGS

.....
SECOND STIPULATION OF THE UNITED STATES
AND THE MASSACHUSETTS WATER RESOURCES AUTHORITY
ON RESPONSIBILITY AND LEGAL LIABILITY FOR
COMBINED SEWER OVERFLOW CONTROL

The Massachusetts Water Resources Authority ("Authority") and the
United States, on behalf of the Environmental Protection Agency ("EPA"),
hereby agree and stipulate as follows:

1. The purpose of this Second Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflow Control ("Second Stipulation") is to terminate the February 27, 1987, Stipulation of the United States and the Massachusetts Water Resources Authority on Responsibility and Legal Liability for Combined Sewer Overflows (the "1987 Stipulation") and replace it with this Second Stipulation that reflects developments and progress in the control of combined sewer overflow ("CSO") discharges to Boston Harbor and its tributaries that have taken place since 1987. The 1987 Stipulation shall remain in effect until this Second Stipulation goes into effect. This Second Stipulation shall take effect, and the 1987 Stipulation shall terminate, upon approval by the Court in the above-captioned action of the Joint Motion of the United States and the Massachusetts Water Resources Authority To Amend Schedule Six with Respect to The Charles River, Alewife Brook and East Boston.

2. The Authority's Long-Term Combined Sewer Overflow ("CSO") Control Plan ("LTCP") presently consists of the Authority's July 31, 1997, Final Combined Sewer Overflow Facilities Plan and Environmental Impact Report (the "1997 Facilities Plan"), as modified by the planning documents identified in the attached Exhibit "A," entitled, MWRA Long-Term CSO Control Plan Facilities Planning Documentation.

3. The CSO outfalls that are the subject of the Authority's LTCP include the outfalls listed in Exhibit "B" hereto, entitled, "Summary of Typical

Year CSO Activation Frequency and Volume.” The CSO outfalls identified with the prefix “MWR” are owned or operated by the Authority. The CSO outfalls identified with a prefix “BOS,” “CAM,” “CHE,” or “SOM,” are owned and operated by member municipalities (Boston, Cambridge, Chelsea, or Somerville, respectively), except that the Union Park Pump Station (“UPPS”) is jointly operated by the Authority and the City of Boston.

4. With respect to all of the CSO outfalls within or hydraulically connected to the Authority’s sewer system, including the outfalls identified in Exhibit “B” hereto, the Authority accepts legal liability to undertake such corrective action as may be necessary to implement the CSO control requirements set forth in Schedule Six and related orders of the Court in the above-captioned action, and to meet the levels of CSO control (including as to frequency of CSO activation and as to volume of CSO discharge) described in the Authority’s Long-Term CSO Control Plan. Whether the Authority has met the levels of CSO control in its Long-Term CSO Control Plan shall be determined by the EPA and the Massachusetts Department of Environmental Protection. With respect to all CSO outfalls owned or operated by the Authority, including the CSO outfalls identified in Exhibit “B” identified with the prefix “MWR,” and including the Union Park Pump Station, the Authority also accepts legal liability to undertake such future corrective action as may be necessary to meet the CSO control requirements of the Clean Water Act, 33 U.S.C. § 1251 et seq. The Authority does not accept liability for alleged past

violations of the CSO provisions of NPDES Permit No. MA0102351 (issued in 1976 and transferred to the Authority in 1985) prior to February 27, 1987.

5. This stipulation is not intended to and does not limit the Court's power to find, or any party's right to seek, liability for past or continuing violations of federal law or to enforce compliance with that law.

By its attorneys,

Massachusetts Water Resources
Authority

United States of America

By its attorneys,

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Dated: March 15, 2006

B3131253.1

**Exhibit A
to Second Stipulation**

MWRA Long-Term CSO Control Plan Facilities Planning Documentation

Planning Document	Project	Receiving Water
Re-Assessing Long Term Floatables Control for Outfalls MWR018, 019 and 020, February 2001 Report on Re-Assessment of CSO Activation Frequency and Volume for Outfall MWR010, April 2001, and supplemental letter report (Metcalf & Eddy, Inc.), May 31, 2001	Regionwide Floatables Controls and Outfall Closing Projects	Regionwide
Final Variance Report for Alewife Brook and the Upper Mystic River, July 2003, and supplemental letter report (Metcalf & Eddy, Inc.), July 8, 2003	Sewer Separation at CAM004 and CAM400 Interceptor Connection Relief and Floatables Control at CAM002, CAM401B and SOM01A, and Floatables Control at CAM001 and CAM401A Control Gate/Floatables Control at Outfall MWR003 and MWRA Rindge Avenue Siphon Relief	Alewife Brook
East Boston Branch Sewer Relief Project Reevaluation Report, February 2004 Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005	Interceptor Relief For BOS003-014	Mystic/Chelsea Confluence; Upper and Lower Inner Harbor
Supplemental Facilities Plan and Environmental Impact Report on the Long-term CSO Control Plan for North Dorchester Bay and Reserved Channel, April 27, 2004	North Dorchester Bay Storage Tunnel and Related Facilities	North Dorchester Bay
	Pleasure Bay Storm Drain Improvements	
	Morrissey Boulevard Storm Drain	
	Reserved Channel Sewer Separation	Reserved Channel
Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005, and MWRA Revised Recommended CSO Control Plan for the Charles River, Typical Year CSO Discharge Activations and Volumes, November 15, 2005	Brookline Connection, Cottage Farm Overflow Chamber Interconnection and Cottage Farm Gate Control	Upper and Lower Charles River Basin
	Brookline Sewer Separation	
	Bulfinch Triangle Sewer Separation	
	Charles River Valley/South Charles Relief Sewer Gate Controls	
	Evaluation of Additional Charles River Interceptor Interconnection Alternatives	

4/25/2008 -- Revised

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**Exhibit A
to Second Stipulation**

MWRA Long-Term CSO Control Plan Facilities Planning Documentation

Prison Point Optimization Study, March 30, 2007	Prison Point CSO Facility Optimization	Upper Inner Harbor
Proposed Modification of Long-Term Level of Control for the Prison Point CSO Facility, April 2008		

⁽¹⁾ Also "MWRA Long-Term CSO Control Plan Target CSO Activation Frequency and Volume by Outfall," letter dated December 9, 2005.

**Exhibit B
to Second Stipulation**

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE (*)
	LONG TERM CONTROL PLAN 2005 (*)		
	Activation Frequency	Volume (MG)	
ALEWIFE BROOK⁽¹⁾			
CAM001	5	0.19	5
CAM002	4	0.69	5
MWR003	5	0.98	5
CAM004	To be closed	N/A	5
CAM400	To be closed	N/A	5
CAM401A	5	1.61	5
CAM401B	7	2.15	5
SOM001A	3	1.67	5
SOM001	Closed	N/A	
SOM002A	Closed	N/A	
SOM003	Closed	N/A	
SOM004	Closed	N/A	
TOTAL		7.29	
UPPER MYSTIC RIVER			
SOM007A/MWR205A (Somerville Marginal)	3	3.48	
SOM007	Closed	N/A	
TOTAL		3.48	
MYSTIC / CHELSEA CONFLUENCE			
MWR205 (Somerville Marginal)	39	60.58	
BOS013	4	0.54	6
BOS014	0	0.00	6
BOS015	Closed	N/A	6
BOS017	1	0.02	9
CHE002	4	0.22	
CHE003	3	0.04	
CHE004	3	0.32	
CHE008	0	0.00	
TOTAL		61.72	
UPPER INNER HARBOR			
BOS009	5	0.59	6
BOS010	4	0.72	6
BOS012	5	0.72	6
BOS019	2	0.58	
BOS050	Closed	N/A	
BOS052	Closed	N/A	
BOS057	1	0.43	
BOS058	Closed	N/A	
BOS060	0	0.00	
MWR203 (Prison Point)	17	243.00	10
TOTAL		246.04	
LOWER INNER HARBOR			
BOS003	4	2.87	6
BOS004	5	1.84	6
BOS005	1	0.01	6
BOS006	4	0.24	6
BOS007	6	1.05	6
TOTAL		6.01	

**Exhibit B
to Second Stipulation**

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE ^(*)
	LONG TERM CONTROL PLAN 2005 ^(*)		
	Activation Frequency	Volume (MG)	
CONSTITUTION BEACH			
MWR207	Closed	N/A	
TOTAL		0.00	
FORT POINT CHANNEL			
BOS062	1	0.01	
BOS064	0	0.00	
BOS065	1	0.06	
BOS068	0	0.00	
BOS070			
BOS070/DBC	3	2.19	3
UPPS	17	71.37	
BOS070/RCC	2	0.26	
BOS072	0	0.00	4
BOS073	0	0.00	4
TOTAL		73.89	
RESERVED CHANNEL			
BOS076	3	0.91	7
BOS078	3	0.28	7
BOS079	1	0.04	7
BOS080	3	0.25	7
TOTAL		1.48	
NORTHERN DORCHESTER BAY			
BOS081	0 / 25 year	N/A	
BOS082	0 / 25 year	N/A	
BOS083	0 / 25 year	N/A	
BOS084	0 / 25 year	N/A	
BOS085	0 / 25 year	N/A	
BOS086	0 / 25 year	N/A	
BOS087	0 / 25 year	N/A	
TOTAL		0.00	
SOUTHERN DORCHESTER BAY			
BOS088	To be closed	N/A	
BOS089 (Fox Point)	To be closed	N/A	
BOS090 (Commercial Point)	To be closed	N/A	
TOTAL		0.00	
UPPER CHARLES			
BOS032	Closed	N/A	
BOS033	Closed	N/A	
CAM005	3	0.84	8
CAM007	1	0.03	8
CAM009	2	0.01	8
CAM011	0	0.00	8
TOTAL		0.88	

**Exhibit B
to Second Stipulation**

SUMMARY OF TYPICAL YEAR CSO ACTIVATION FREQUENCY AND VOLUME

OUTFALL	TYPICAL YEAR		REFERENCE ^(*)
	LONG TERM CONTROL PLAN 2005 ^(*)		
	Activation Frequency	Volume (MG)	
LOWER CHARLES			
BOS028	Closed	N/A	
BOS042	Closed	N/A	
BOS049	To be closed	N/A	
CAM017	1	0.45	8
MWR010	0	0.00	2
MWR018	0	0.00	1
MWR019	0	0.00	1
MWR020	0	0.00	1
MWR021	Closed	N/A	
MWR022	Closed	N/A	
MWR201 (Cottage Farm)	2	6.30	8
MWR023	2	0.13	
SOM010	Closed	N/A	
TOTAL		6.88	
NEPONSET RIVER			
BOS093	Closed	N/A	
BOS095	Closed	N/A	
TOTAL		0.00	
BACK BAY FENS			
BOS046	2	5.38	
TOTAL		5.38	

(*) Long-term Control Plan activation frequency and volumes were established in the 1997 CSO Facilities Plan and Environmental Impact Report or as noted in the "Reference" column.

- 1- Re-assessing Long Term Floatables Control for Outfalls MWR018, 019 and 020, February 2001.
- 2- Report on Re-Assessment of CSO Activation Frequency and Volume for Outfall MWR010, April 2001, and supplemental letter report (Metcalf & Eddy, Inc.), May 31, 2001.
- 3- Report on Re-Assessment of CSO Activation Frequency and Volume to Dorchester Brook Conduit and Outfall BOS086, January 2001 and supplemental letter report (Metcalf & Eddy, Inc.), June 28, 2001.
- 4- MWRA Long Term CSO Control Plan, Fort Point Channel Sewer Separation and System Optimization Project, Level of Control at CSO Outfalls BOS072 and BOS073, June 7, 2004.
- 5- Final Variance Report for Alewife Brook and the Upper Mystic River, July 2003, and supplemental letter report (Metcalf & Eddy, Inc.), July 8, 2003.
- 6- East Boston Branch Sewer Relief Project Reevaluation Report, February 2004.
- 7- Supplemental Facilities Plan and Environmental Impact Report on the Long-term CSO Control Plan for North Dorchester Bay and Reserved Channel, April 27, 2004.
- 8- Recommendations and Proposed Schedule for Long-Term CSO Control for the Charles River, Alewife Brook and East Boston, August 2, 2005; MWRA Revised Recommended CSO Control Plan for the Charles River, Typical Year CSO Discharge Activations and Volumes, November 15, 2005; MWRA Long-Term CSO Control Plan, Response to Additional EPA Questions Regarding Prison Point Discharges, January 9, 2005 (2006).
- 9- MWRA Long Term CSO Control Plan Target CSO Activation Frequency and Volume by Outfall, December 9, 2005.
- 10- Prison Point Optimization Study, March 30, 2007; Proposed Modification of Long-Term Level of Control for the Prison Point CSO Facility, April 2008